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SCIENCE
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ALLIANCE

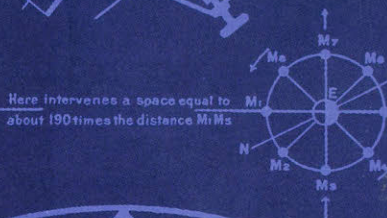
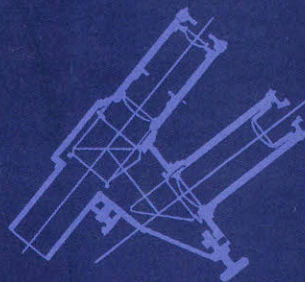
QUARTERLY

LOS ANGELES COUNTY MUSEUM/VOLUME 2 · NUMBER 1

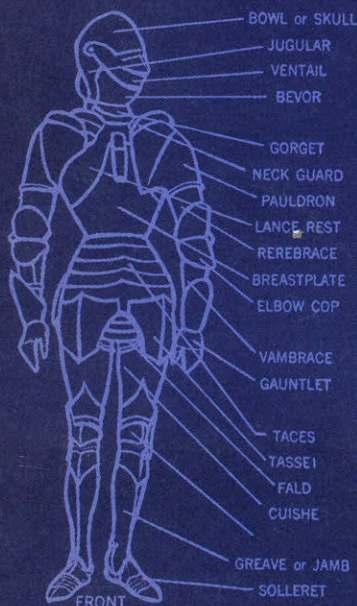
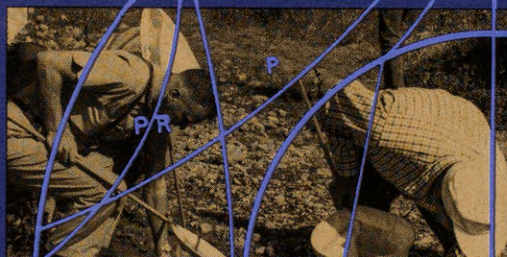
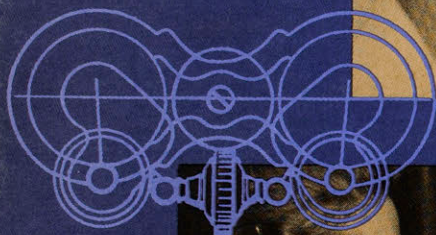
HISTORY & SCIENCE DOCENT PROGRAM WESTERN FOUNDATION OF VERTEBRATE ZOOLOGY
THE SONORA TRAIL • A PROFILE-WILLIAM DWIGHT PIERCE, Ph.D. • TEACHERS STUDY MUSEUM TECHNIQUES



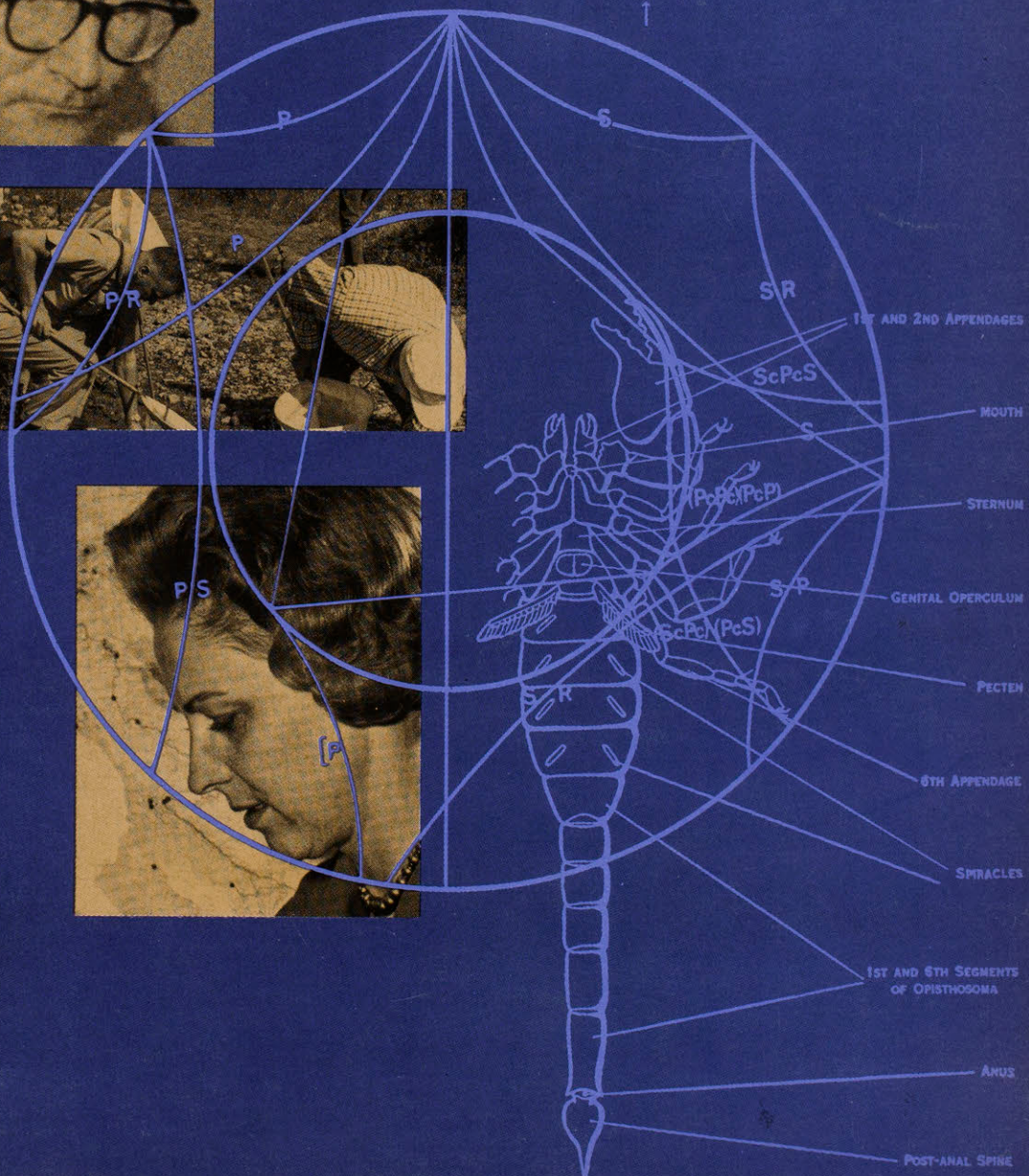
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FRONT



MEMBER-SHIP INVITATION

May we encourage you to invite your friends to participate with you in the membership program of the Science and History Alliance. The growth of our Museum and its importance to its members will reflect your participation in our current membership campaign.

Benefits to be shared by all members are as follows:

1. A subscription to the *Science & History Alliance* QUARTERLY
2. The monthly *Calendar of Events*
3. Family participation programs—NEW DIMENSIONS TO DELIGHT—tickets available only to members
4. 20% discount on most items at the Museum Bookshop
5. 50% discount on tickets for the *Science and the History Lecture Series*
6. Announcements for the annual *Film Circuit*
7. Announcements for the annual *Where-in-the-World* travel series
8. Invitations to previews and receptions for new exhibitions and to meet lecturers
9. Additional selected publications
10. Other bonus rewards.

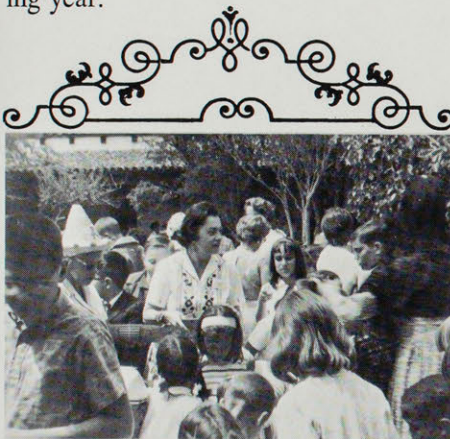
Memberships are available from \$10 to \$1,000. For further information please call or write our office—RI 8-2194.

CASA de ADOBE

Our first series of family participation programs, NEW DIMENSIONS TO DELIGHT, came to a close on May 11 with a festive morning at the Southwest Museum's Casa de Adobe. A tour of the historic casa delighted old and young alike. Elizabeth Waldo and her musicians entertained with native Indian and Mexican music. A pinata was broken by an eager group of youngsters and a luncheon of Mexican food was served to all.

Tickets for this series were restricted to members of the Alliance. Each of the four programs were over subscribed within a few days of the first announcement. Mr. Carl S. Dentzel, our host at the Casa de Adobe and the Alliance Program Chairman, is now working with the Museum staff on an expanded series to begin in the fall of 1963.

We anticipate your continued interest in these family programs during the coming year.



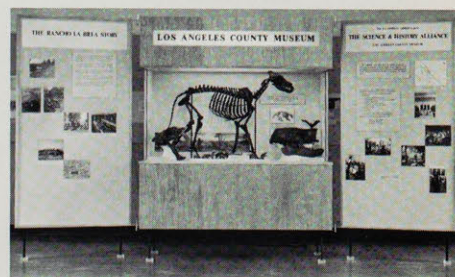
Science and History Docents assisted as hostesses and guides for the New Dimensions to Delight series.

SCIENCE & HISTORY TRAVELING EXHIBIT

The Science and History Alliance successfully launched their first Traveling Exhibit program, bringing activities and programs of the Museum and the Alliance to the attention of more persons in our community. This first exhibit features original fossil skeletons from Rancho La Brea including a complete skeleton of the Dire Wolf, a perfect skull and jaws of the Saber-tooth Cat and the Giant Ground Sloth, with documented illustrations of the Rancho La Brea story.

The initial showing was in February and March at the Los Angeles Chamber of Commerce; and in April and May it was on display at the Long Beach State College Library. The library featured at the same time as the exhibit a display "Out of the Depths," using sea shells and other forms of marine life from the Division of Education of this Museum.

The traveling exhibit was planned by the Section of Paleontology in the Museum and executed by the Exhibitions Division with financial support from the Alliance. The Science and History Alliance committee, with Dr. William S. Stewart as chairman, is in charge of scheduling the traveling exhibit. Key locations in outlying communities are sought for the future. Future exhibits will feature other phases of Science and History in the Museum.



Interest in the Museum and its activities has been generated through this traveling exhibit on Vertebrate Paleontology.

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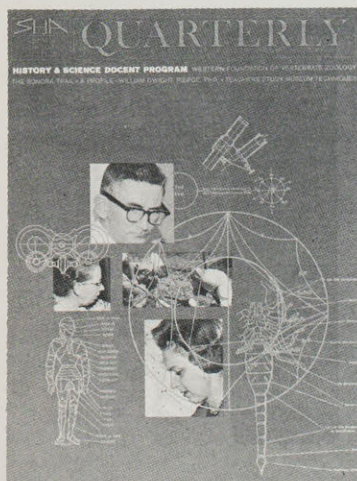
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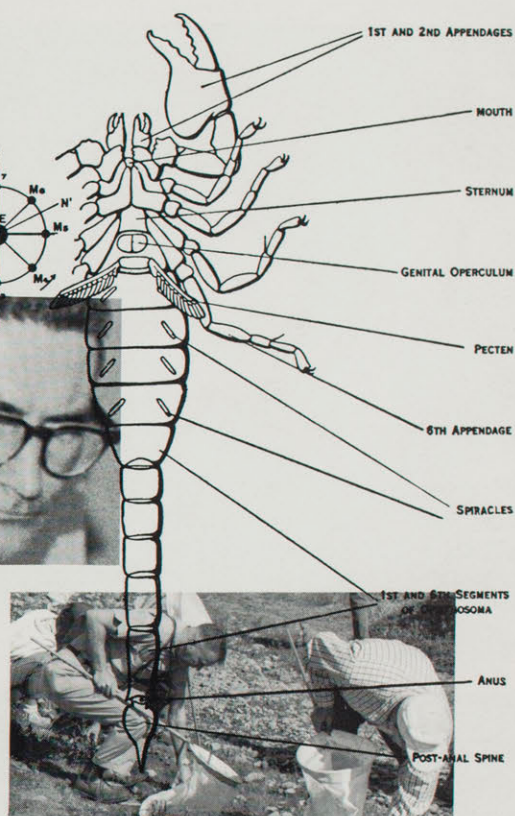
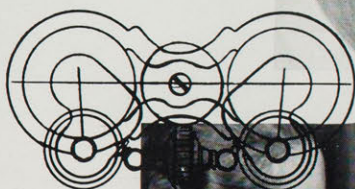




SCIENCE & HISTORY DOCENT PROGRAM



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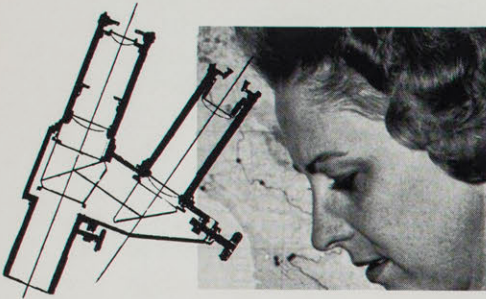
by Gretchen Sibley

The pilot program for volunteer docents in science and history began this year with a select and enthusiastic group of young women. Mrs. Charles Bacheller and Mrs. Edward Lilly, the two chairmen, organized these members of the Science and History Alliance; the core of the group are members of the Volunteer League of San Fernando Valley long associated with Museum activities. An orientation and training program for volunteer workers was designed so that members eventually will work in the galleries,

teach classes, guide women's clubs interested in the Museum, and generally meet the need of any group wishing to visit the Museum for study and enjoyment. The other important work of the volunteers would be to aid the Science and History Divisions in hostessing, office and curatorial work.

The women met twice a month on Thursdays in Miss Sibley's office for several hours of intensive work. The year began with a survey of all of the science and history galleries. Miss Gretchen Sib-

SCIENCE & HISTORY DOCENT PROGRAM



(1) The Docents observe a Museum guide, Charles Martin, as he teaches a school class in the gallery. (2) The geology related to fossil animals is being presented by Dr. Downs in a morning study period. (3) A family attending the "New Dimensions to Delight" tour are met by Mrs. Edward Lilly, Chairman of the Science and History Docents. (4) Miss Gretchen Sibley, Zoology instructor, explains the background of the La Brea Hall. (5) Mrs. Donald Allen, Mrs. Edward Lilly and Mrs. Raymond Prochnow model California costumes for the opening of the California History Gallery. (6) Mrs. John Neblett helps catalogue in the Mammalogy and Ornithology department. (7) Dr. Charles McLaughlin explains the activities of the Mammalogy department to the Science and History Docents. (8) A group of the docents act as a practise group learning from Mrs. Frank Clark. (9) Mrs. Lawrence Irell examines a shrunken head from South America in her research in anthropology.



(3)



(4)



(7)



(8)



ley and Dr. John Baur of the Division of Education, wrote training aids which were distributed well in advance of each meeting. These covered the specific subject area to be considered during the first hour. Each session one of the science or history curators or instructors worked with the group in the gallery devoted to his related field, giving background material and explaining the exhibits. The members then returned to the office for further discussion during the second hour, and this was usually continued with intense interest over sandwiches and coffee during the noon hour.

Members made visits to the science (2) laboratories to make a survey of the

work performed by the curators, reviewing the collections in both science and history. Areas where volunteers could contribute their assistance were explored.

The preparation necessary to guide groups at the Museum is most extensive and many hours were necessary to understand the historic and scientific background of the gallery exhibits. During the afternoon the women studied in the library preparing special reports and revisited the galleries for further study.

Even while the docents were learning they were also contributing to the Museum program. On several occasions they acted as hostesses for Science and History Alliance events such as the opening of the California History Gallery, the four Science Lecture receptions, graduation exercises for the Student Workshops, etc. They also organized and led the tours for the Alliance's "New Dimensions to Delight" programs planned for family participation. Several tours for private groups have also been led by the docents.

The curators as well have benefitted from the volunteer work. A visit to the laboratories might find a docent labelling (6) bat skulls for Dr. McLaughlin, doing research on Mr. Ariss' anthropological collection, working with birds, or cataloging medals.

In addition to their interest in carrying on this active program, four members maintained a very heavy schedule of lecturing for the recent Tutankhamun Treasures and the Treasures of Versailles exhibitions, school art tours and Treasure Tours.

Regardless of a very busy year, the docents are now planning the second year, when they will meet twice a month to practice and perfect their lectures and augment their knowledge with further discussion and study. A thorough survey has been made of work areas for volunteers and the women will contribute their services in relation to their time, interests and abilities.

A number of Science and History Alliance members have indicated an interest in participating in a similar program; consequently a new, small, select group will be organized with a program starting late in September. Those interested in becoming members may contact Mrs. Edward Lilly for an interview: 5816 Lemon (9) Ave., Van Nuys, ST 0-5913.



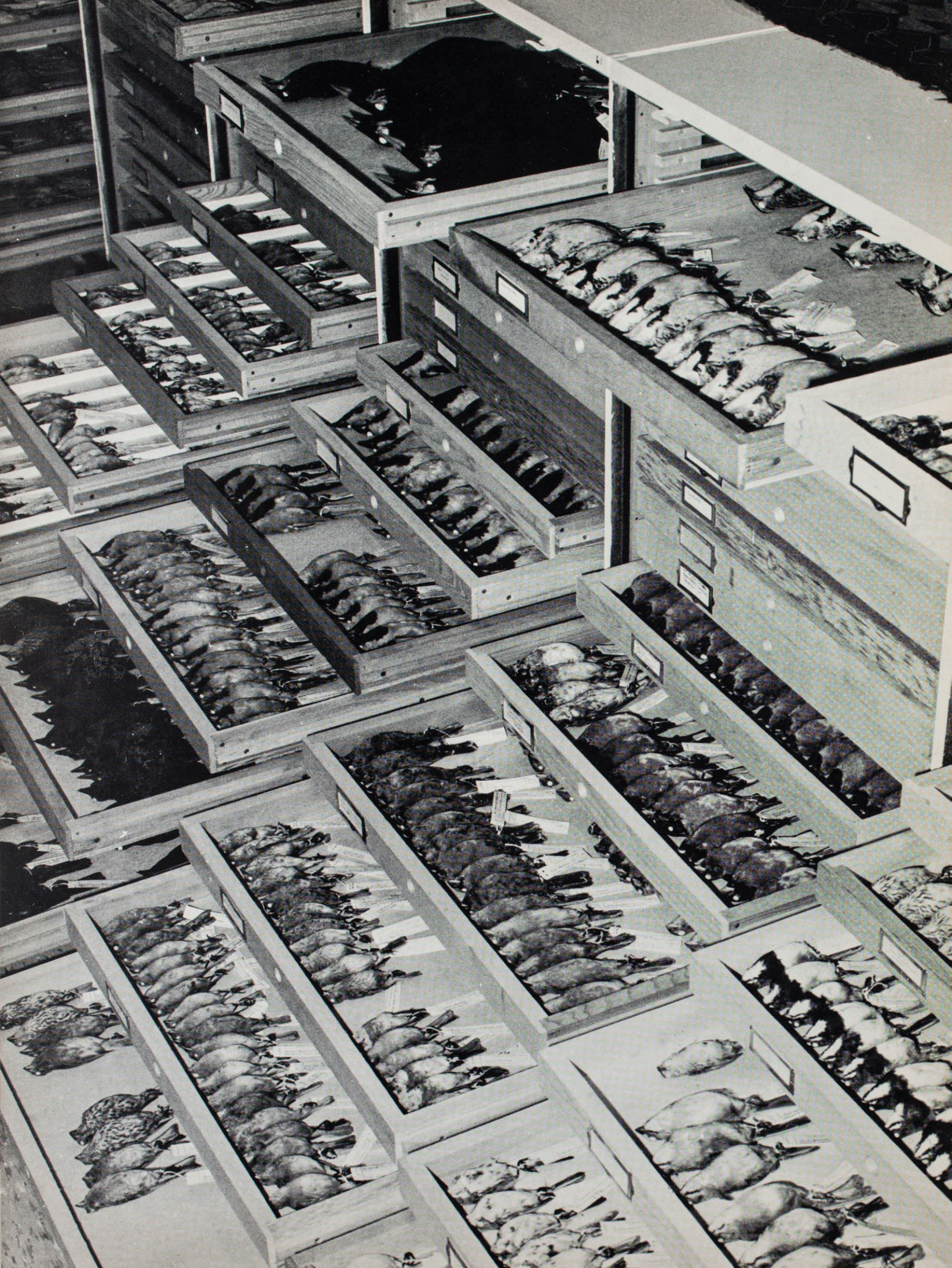
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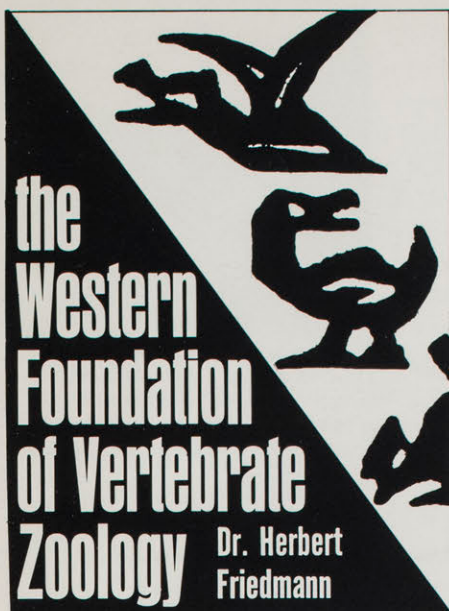


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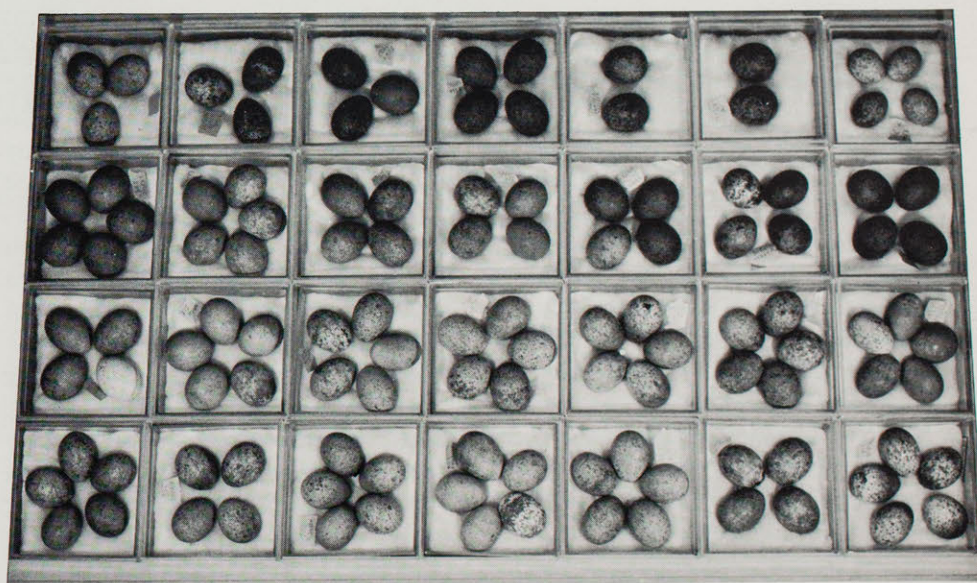
During the decades when the biological exploration of the world was one of the primary pursuits of zoologists and botanists, many individuals amassed personal collections of considerable magnitude. Of these assemblages of specimens those that were accurately and carefully documented became important sources of information, and their contents, now largely deposited in large research museums in the public domain, still retain their innate usefulness. For a variety of reasons, such as rising costs of housing and maintaining such collections, and the constant borrowing and lending of specimens for study by investigators, these personal collections have almost ceased to exist as such but have been either lost by lack of proper care or have been transferred to the greater and continuing resources of the large museums. The debt of our large public collections to these originally private ones is very great, and it is only proper that due appreciation be shown to the very few that still exist under personal or private group management.

One of the most outstanding of these privately maintained collections, certainly the largest of its kind in the Los Angeles area, is the Western Foundation of Vertebrate Zoology. This museum, built, maintained and supported by a small group of men, under the presidency of Mr. Ed N. Harrison, comprises at the present time something over 13,000 study specimens of birds, covering primarily the avifauna of western North America, Mexico, and Central America, but containing also numerous specimens

from Africa and other places. The museum contains approximately 30,000 sets of birds' eggs, many with the nests. This portion of the collection, unrivalled in southern California, gives a surprisingly complete representation of North American birds and also has extensive material from Australia, India, and eastern Africa.

The collections and their documentation are available for study by qualified investigators, but obviously cannot be opened to the general public. The museum has no exhibits and has no plans for any. It is purely a study collection

with a large potential usefulness because of the excellence of its documentation and the fine condition in which the material is kept. The collections are housed in a modern, fire-proof building erected solely for such purpose, and adequately equipped for its ends. The fact that three of the officers of the Western Foundation of Vertebrate Zoology—E. N. Harrison, W. J. Sheffler, and C. V. Duff, are members of the Board of Governors of the Los Angeles County Museum, assures us of cooperation between the two institutions when need for consulting specimens in either may arise.



LOWER: One of many trays of the egg collection. Each set of eggs is kept in an individual box.

ABOVE: Interior view of the museum showing part of the work and storage areas with the library.

OPPOSITE: Bird specimens are carefully labeled and stored in trays of the appropriate size.



TINAJAS ALTAS. In the foreground are the graves which gave the name, "City of Graves," used by Charles Prudhomme. The potholes are in the defile of the cliff.

Men who risk their lives traversing a wilderness know that they cannot survive without water. Over a period of years, as they discover where water is available and where it is not, trails develop, linking river to stream and stream to well or lake. The opening up of new territories is dependent upon the development of such trails for adventurous men to follow.

In the early days of California history, close to 140 years ago, such a trail began to develop. Linking Los Angeles to Sonora, Mexico, serving as a lifeline for men whose duties or whose thirst for adventure drove them northward or southward in search of new challenges to meet or new frontiers to conquer, it became famous as the Sonora Trail.

A number of well-known early California personalities utilized the Sonora Trail before the Mexican-American War. Antonio Franco Coronel and Luis Arenas went from California to Sonora

in 1839 on a trading expedition. Coronel, mayor of Los Angeles in 1853, California State treasurer from 1867 to 1871, whose valuable collection of Californiana is in the Los Angeles County Museum, is known to nearly everyone interested in the history of southern California. Arenas was a native of Sonora who was elected *alcalde* of Los Angeles in 1838 and, as a trader, made trips throughout California into Sonora.

Narciso Botello and Juan Forster came over the trail from Sonora in 1833. Botello became secretary of the Los Angeles *ayuntamiento* (town council) in 1836 and was prominent in politics prior to the American conquest of California. He was a native of Alamos, Sonora. Forster, an Englishman, once owned the huge Santa Margarita y las Flores rancho which has become the Camp Pendleton Marine Base. He commented that he was the second foreigner to use the route, saying that the first had been a man

named Young who drove a herd of horses from San Gabriel to Caborca for the padre of the latter mission. Possibly he was referring to Ewing Young, a noted trapper and mountain man, who may have passed this way in 1831 or 1832, as indicated in Bancroft's *History of California*.

Among other well-known native Sonorans who crossed overland from Sonora was Juan Bautista Moreno, captain of a company of California soldiers who defended their home against the American Army in 1846-47. He came to California in 1844. Rafael Gallardo came from Sonora to California in 1833, then returned for his family and brought them to California in 1835. He served as a justice of the peace in Los Angeles in 1843; and in 1847, shortly after the Americans occupied Los Angeles, he served as a councilman.

Earliest available records indicate that Mexican army officers Jose Romero,

Jose Maria Estudillo, and Jose Figueroa, as well as the Dominican priest, Felix Caballero, explored possible land routes between Sonora and California from 1823 to 1826. A route crossing the Colorado River at Yuma had been pioneered by Juan Bautista de Anza in 1774. This route was reopened by Figueroa's and Romero's joint efforts, plus an exploration by Lieutenant Romualdo Pacheco. As early as 1827 this route was being used by Sonoran traders, settlers, and adventurers intent upon coming to California. Perhaps hundreds of persons, both Sonorans and Californians, used the California-Sonora trail before the Mexican-American War began in 1846. The 1836 census of Los Angeles lists about 100 Sonorans, the majority having come overland within a decade before the census enumeration. Scores of early Sonoran residents of Los Angeles came to California as a result of the tragic Indian wars which shattered Sonora in 1832.

A portion of the Sonora trail was utilized by the American army during the



WELL AT EL TULE. One of the vital sources of water for the Sonorans as they made their way across the desert. If this pool was empty, the only alternative was to push on to Tinajas Altas in hope of finding water there.



SANTO DOMINGO. This little settlement was the last community passed by Sonoran Argonauts before entering the uninhabited portion of the desert. The photo was taken about 1905.



WARNER'S RANCH. An important stopping-place on the route to Los Angeles. Colonel J. J. Warner's ranch was also a place where foodstuffs could be purchased. This is a contemporary photograph of the ranch-house, which was built about 1851 or 1852.

conquest of California. The invading forces came down the Gila river to Yuma and found a well-traveled road as far as Warner's Ranch and the nearby hot springs before they took the cut-off for San Diego and San Luis Rey. Although the American Army is credited with having brought the first wagons overland into California, it is altogether possible that these wagons had been preceded by the carretas of Sonoran merchants and settlers.

The Sonora trail played a prominent role in the California gold rush. The discovery of gold in California was generally known in northern California by

mid-March, 1848. San Francisco, at least, was aware of the fact by that time. Just when the news reached Sonora, Mexico, is not altogether certain, but records show that large numbers of Sonorans were moving into California as early as July, 1848. It may be supposed that news of the gold-strike reached Sonora as early as June of the same year. The first Sonoran Argonauts probably came from the district of Altar, where gold and silver had been well-known since the discovery of the Cieneguilla strikes of the 1770's. Later in 1848, well-organized caravans were leaving from Hermosillo bound for California.

Francisco Velasco, in his history of Sonora, estimated conservatively that some 4,000 to 5,000 persons left for California from Hermosillo between October, 1848, and March, 1849. Several thousands of Sonorans had been lured from their homes and were mining in California before the gold news was circulated in the eastern United States.

As a group the Sonorans were accomplished miners, bringing with them superior mining techniques, which the inexperienced Americans adopted. The *arrastra*, a device for crushing ore, was introduced from Sonora; and the practice of digging for gold in so-called "coy-

ote" tunnels was a Sonoran innovation while most gold-seekers were still searching the riverbeds for nuggets. Methods of finding and separating gold without water were familiar to the Sonorans, as was the mercury process. All such methods were unknown to most Americans and other foreigners.

The Sonorans were such efficient miners that they soon excited the hostility of other nationalities, particularly the Americans. After the first year or so, by which time the competition for claims was severe (and Sonoran techniques in mining fairly well-known), discriminatory laws, taxes, and mob action beset the Sonoran miner. In 1850 pressure against them began in earnest. Nevertheless, thousands of them still trekked to California's bonanzas. Back and forth they went over their trail. As Argonauts, the Sonorans were unique in that they often returned to Sonora during the winter months instead of hibernating in mining-town cabins or waiting out the snows in San Francisco. As a result, some Sonoran miners made several trips to California, and many of them made at least two.

As we have seen, however, the route taken by Sonorans going to California was not established as a result of the gold-rush. It had been in continuous use for more than twenty years before the discovery of gold in California.

As indicated on the map, the Sonora trail originated at Altar and Caborca. From these points, two parallel roads led northwest through the desert region. One route followed approximately the same path now taken by the modern Sonoita-Caborca highway, through Quitovac, Tajitos, and other small settlements. The other road seems to have gone directly from Altar, and met the former before reaching Santa Domingo, which was an important stopping-point for water, supplies and rest during the 1850's. Mexican penetration and settlement of these areas was possibly stimulated by the traffic between California and Sonora.

From Santo Domingo the Sonoita river ran westward for about fifteen miles, providing plentiful water for the traveler. But after the river curved southward the scarcity of water for a 100-mile stretch was a serious threat to his survival. The next available supply of fresh water was at El Tule, about 45 miles



INDIAN HOUSE NEAR CARRIZO. The dwelling depicted here by J. W. Audubon in 1849 is an excellent example of Kamia or Diegueno house-types. It is probably located in the vicinity of Carrizo or Vallecito, although Audubon himself was at San Felipe on October 23, when he made the notation.

from the Sonoita river. And beyond El Tule it was 17 miles to Tinajas Altas, the next point where water could be obtained.

Tinajas Altas was one of the most famous points on the Sonora trail. The name, meaning "High Cisterns," refers to the natural depressions worn in the side of the cliff, which held some water throughout most of the year. Occasionally, however, the Tinajas were empty because of frequent use by the numerous travellers. If this were the case, both men and mounts might die of thirst. The cisterns were located at different levels in the cliff, and the topmost ones were difficult to reach. Before the gold-rush, when only a few persons utilized the route, these cisterns provided ample water. After 1848, however, when many people were crossing the desert, the supply was often exhausted.

Small piles of stones at the base of the cliff where these cisterns were located covered the graves of those who died of thirst at Tinajas Altas or on the trail because the water supply here had failed them. Carl Lumholtz, author of *New Trails in Mexico*, reported counting 54 of these graves; and he suspected the existence of many others that could not be identified, either because they had never

been marked or because their stones had been scattered by time.

In the Los Angeles County Museum's Prudhomme collection there are seven different accounts of the trip from Sonora to California. Six of them mention Tinajas Altas, and five mention the burials there. This place is called the "City of Graves" in these accounts, compiled by Charles J. Prudhomme, a descendent of an early California family, and the collector of these historic items. Presumably this place had left a vivid impression on both the early and later visitors of the Tinajas.

From Tinajas Altas to the Gila river, there was another 43-mile expanse of desert without water. Once the Gila was reached, however, there was less danger of death from thirst. The great 100-mile stretch, relieved at only those two points with an uncertain supply of water, usually taxed the strength of the horses or oxen as well as the men, not only because of the scarcity of water but also because of lack of pasture. A rest for both man and beast was often necessary when the junction of the Gila and Colorado rivers was reached.

Most travelers forded the Colorado river at Algodones, about ten miles

downstream from Yuma. There was also a crossing opposite Pilot Knob which was frequently used by Sonorans. After 1849 a ferry was available at Yuma, but it was expensive and many Sonorans still preferred to cross the river on their own initiative.

Once the river was forded, the trail passed just below the present United States-Mexico border in Baja California, avoiding the sand-dunes which stretch along the edge of the ancient lake-bed where the Salton Sea is now located. Water could be obtained at several places along this route, such as Pozo de la Rajadura (Cook's Well), Siete Pozos, and Alamo Mocho.

After leaving Alamo Mocho the trail crossed the border in the vicinity of what is now the city of Mexicali, passed Pozo del Indio (Indian Wells, also called Pozo Hondo), on the west side of the Imperial Valley, and finally reached Carrizo Creek, where some pasture was available throughout much of the year.

From Carrizo the trail passed on through Vallecito. As the Indian rancherias at Vallecito and La Puerta were Christianized by the mission of San Diego, this area might be considered a vague frontier of civilization. Proceeding westward from Vallecito, the road wound through the mountains by way of Box Canyon, forming a "gooseneck" and twisting to the north into the San Felipe Valley. From San Felipe to Warner's Ranch and Agua Caliente (War-

ner's Hot Springs) the ascent was not difficult.

From Agua Caliente there appear to have been two routes. One, which was probably used as early as 1827, seems to have passed through the site of Lake Henshaw and then to have followed the San Luis Rey river, skirting the southern slopes of Mount Palomar and passing through Pala to San Luis Rey. The other circled to the north of Mount Palomar via Aguanga, and then passed on to Temecula. This trail, which provided more direct access to Los Angeles, became the more popular route. It may have been in use as early as 1835, and by 1841 it was important enough to be clearly indicated on a map of California made during Lieutenant Charles Wilkes' Pacific Exploring Expedition which had been sent out in the interests of the American whaling industry. Wilkes does not seem to have reached the interior of southern California, but probably heard of a trail existing there or acquired the information from another map. At any rate, the trail indicated on his 1841 map approximates the Yuma-Temecula-Los Angeles route.

From Temecula the Sonora trail went through Temescal (Murrieta Hot Springs), La Laguna (Lake Elsinore), and Rancho del Chino. Once Chino had been passed, the final short lap led to the town of Los Angeles. Before the gold-rush, Los Angeles was the terminus of the trail. After 1848, it was an important

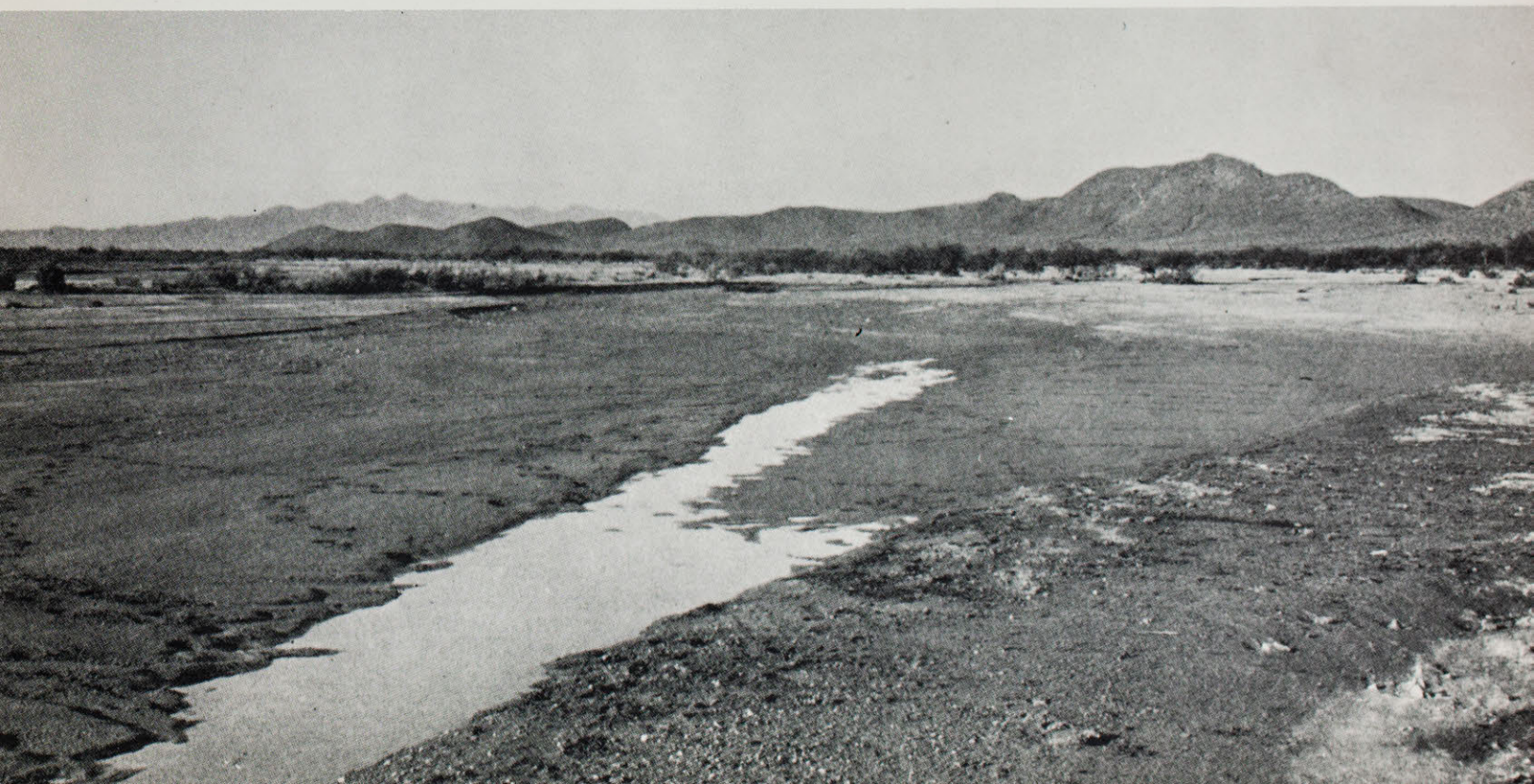
stopping-place for Sonorans enroute to the mines or from them. The Sonorans would often rest in Los Angeles for a few days, purchasing supplies and preparing for the next lap of their journey, particularly if they were southward bound.

In 1858, the portion of the Sonora trail which ran from Yuma to Los Angeles was used by the Butterfield stage line, since it was the most accessible route through the southern part of the state. The stage line was in operation for only three years before it was discontinued because of the Civil War. Sonorans continued to travel to California over the trail for more than a decade after the stage line ceased operations.

As late as 1875, there were still a few families moving to California by way of the old trail, which had been in continuous use for nearly fifty years. After 1875, however, the new railroad from Los Angeles to Tucson made it easier to go by way of Tucson, particularly when the rail-line was extended to the Sonora border a few years later.

Thus the trail fell into disuse as the result of improved means of travel. Paved roads now follow most of the Sonora trail in California, from Los Angeles to Mexicali; and in Baja California there is a paved road a little to the south of the old trail. In Sonora the Caborca-Sonoita road is now paved, but the roads in Arizona which touch El Tule, Tinajas Altas, and pass on to the Gila, are still much as they were over a century ago.

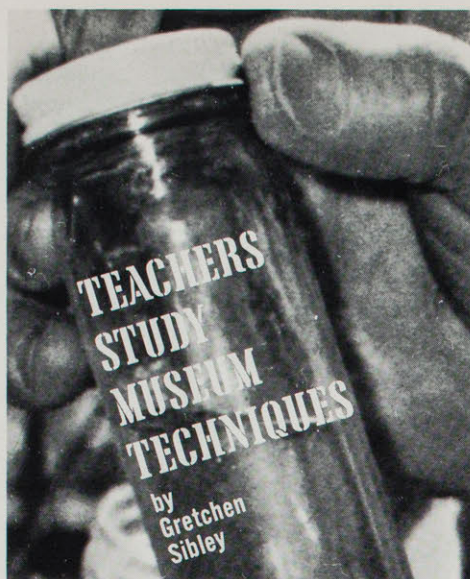
AGUA DULCE. At this point the Sonoita river curves southward while the trail continues to the west. Water was usually available here throughout the year, although the river is sometimes dry south of this location.



Nineteen years of remarkable success achieved by the Museum Natural Science Workshop for outstanding high school science students inspired a number of science teachers to request a similar program for teachers. This year the third such program was undertaken under the leadership of Miss Gretchen Sibley of the Division of Education, assisted by the curators of the Science Divisions.

A limited number of science teachers from junior and senior high schools in the Los Angeles City School system are selected each year to take this workshop. Wherever possible new teachers have been included, usually only one teacher from each school. Since only about a third of the interested teachers can be accommodated, it is hoped that the knowledge acquired will be shared with other teachers in the school.

In an age when science is progressing so rapidly, it becomes increasingly difficult for the teacher to learn all the background material necessary during college years. Often natural science materials are brought into the classroom, or the teacher may wish to collect such materials. Unless such objects are properly collected, prepared, identified, labelled



and cared for, they have limited use.

The program is still in an experimental stage, but a review of the work this year will illustrate the general pattern of activities.

Dr. Reid Macdonald, Curator of Vertebrate Paleontology, opened the Workshop by explaining the general geology of the Los Angeles Basin, methods of finding fossils, collecting, and the proper means of identifying and storing. This was followed ten days later by a field trip

in San Pedro. Mr. George Kanakoff, Curator of Invertebrate Paleontology, directed the group to five fossil localities where they studied geological structure and collected fossil shells and fishes.

Dr. Charles Hogue, Curator of Entomology, surveyed the collection, identification, preparation and storage of insects and conducted a Saturday field trip to Malibu Canyon for practical experience.

The teachers were introduced to the bird and mammal collection of the Museum by Dr. Kenneth E. Stager, Curator of Ornithology. He explained the collecting techniques used in his department and illustrated the preparation of a study skin.

The last meeting provided an opportunity for the teachers to identify the materials they had collected on the field trips. Mr. James Honey, preparator, demonstrated simple methods of effective exhibition of specimens for classroom use.

The Workshop has been well received and the knowledge gained has been of great value in maintaining school museums and providing specimens to augment classroom learning.



Los Angeles City School teachers study ornithology with Dr. Kenneth E. Stager of the Museum staff.

Teachers gather in Malibu Canyon to collect insects under the direction of Dr. Charles Hogue of the Museum.





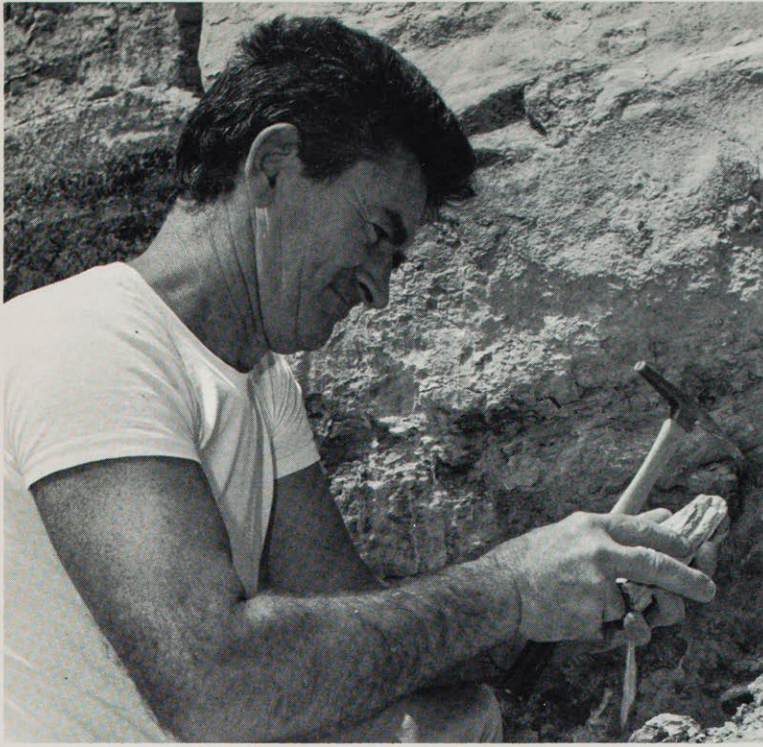
Malibu Creek provides a rich variety of insect life.



Dr. Stager prepares a bird study skin to demonstrate the technique to the teachers.



Living specimens are collected and observed.



Rocks are split to reveal fossil fish and shells.



Large sections of the cliff are carefully removed for further study.

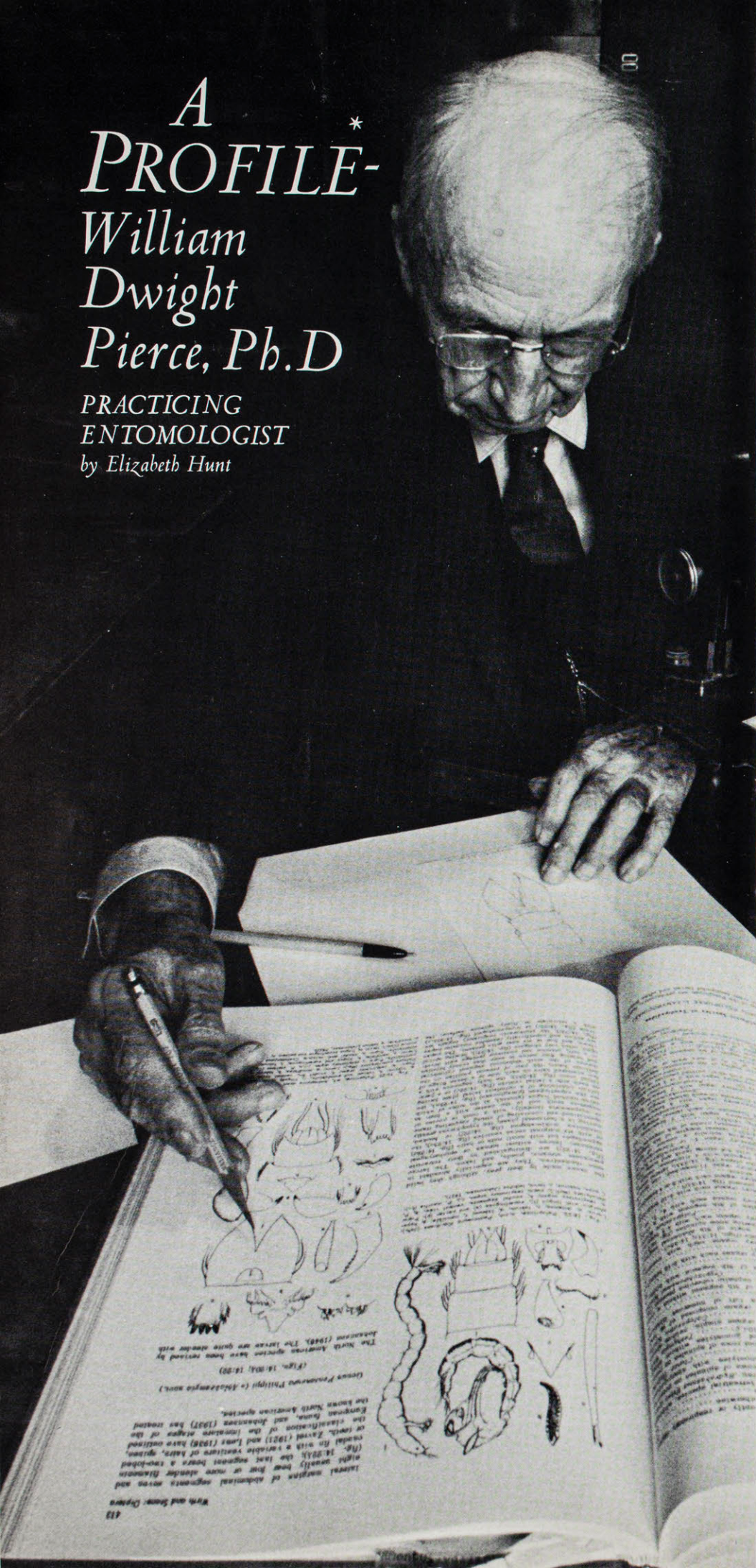
Fossil fish are collected by the teachers from the diatomaceous cliffs in San Pedro.



A PROFILE- William Dwight Pierce, Ph.D

PRACTICING
ENTOMOLOGIST

by Elizabeth Hunt



Only in terms of time did the year 1951 mark the retirement of William Dwight Pierce from his position as Curator of Entomology at the Los Angeles County Museum. In terms of personality a standard retirement, symbolized by a gold watch and an easy life in a shuffle-board world, would be torture to his curious and far-ranging mind. Already the comparatively new field of fossil entomology with its great potential had enticed his imagination. Now, as Curator Emeritus, he is as pleased to be working at the Museum as the staff is grateful that he voluntarily contributes his knowledge and time to the intricacies of paleo-entomology. He is distinguished in this field.

Scientist, scholar, writer, teacher, philosopher, artist, bibliophile, genealogist, Dr. Pierce possesses the spirit and energy of a Renaissance man though he was born 81 years ago in Champaign, Illinois. He is a descendant of the Fullers who voyaged on the Mayflower.

He has that noble American trait of tackling a hard job and seeing it through, and he's willing to take a chance. With a smile he mentions that he has "gone broke a couple of times" in business ventures. He has bucked the red tape of government and been bilked by promoters. Like the resolute Mr. Deeds, Dr. Pierce has risen above these little obstacles to accomplish his ultimate aims. There is no ivory towerism in his profession; he likes to consider its practical applications.

A responsive and agile man carrying his familiar brief case, Dr. Pierce takes the bus to the Museum arriving at 9 each morning. When he prepares to leave at 2, one gets a picture of him walking out with his hat bristling with papers! He may have letters to mail inserted in the crease of his hat, which he has trained for the purpose, and memos to himself in the hatband.

A visit to his office on the third floor tells the story of what makes Dr. Pierce so unique in the slowly unfolding field of fossil entomology. On his long work table are multitudes of nodules—small rocks resembling white or blue-gray striated biscuits. Rock hounds collected most of them from the Calico Mountains in San Bernardino County; some from Tick Canyon in the San Gabriel Mountains where Dr. Pierce was collecting a few weeks ago; others from locations in

Dr. Pierce works on a research project with his microscope close at hand.

California's desert volcanic areas. He numbers and records all nodules by site, altitude and collector—about 33,000 to date.

As he speaks of these nodules, his face lights up and his warm smile is an invitation to share an ancient marvel. "Every nodule contains a surprise." He experiments with acids which sometimes take weeks to etch away the rocky dross from a crystalline dragon fly, beetle, aphid, plant, fish, or fragments identifiable by a hair, wing or feathers. Not a flea has turned up yet.

"The crystal replication of insects and plants is absolutely new to paleontology since 1954," Dr. Pierce wrote in an article. His findings indicate "sudden death and quick preservation (perhaps 24 hours) of the beautiful fossils." He illustrates with a may fly extracted from her rocky cocoon and preserved on a slide. This tiny silicified beauty, whose adult life as we know it today lasts from but one to a few days, stands before her microscopic eggs.

Insect fossils are usually found crushed flat. The nodules, however, contain whole, three-dimensional examples of Miocene life 20 to 25 million years old. "The best of it is that in numerous specimens the internal structures, muscle and nervous systems have been preserved," Dr. Pierce says happily.

"Take two of these nodules and rub them together," he suggests. "Then smell them." There is the distinctive odor of oil. When a nodule is broken, Dr. Pierce has often found both hardened and liquid petroleum in and around the crystallized fossils. This discovery, together with other scientific facts on fossil origins of oil and studies of formations where nodules are found, have caused him to theorize concerning a practical application for today. His hypothesis, oversimplified here, is that chemists might produce oil by utilizing waste biological material and by simulating the same swift process nature used in forming the oil-bearing nodules.

The nodule fossils are not the only three-dimensional ancients which Dr. Pierce has uncovered. Dr. Hildegard Howard, until recently Chief Curator of Science, affirms Dr. Pierce's "insatiable curiosity about life and science" and cites his study of the Rancho La Brea tar insects, an enormous undertaking. He devised a method of getting out thou-

sands of fossil insects, plants, even seeds, many of which were in matrix from skulls of huge animals once trapped in the tar. He is also investigating McKittrick and Sulphur Mountain tar-preserved insects, onyx marble insects and Pennsylvanian and Canadian lignite insects. Sorting these out requires an inordinate amount of work, and Dr. Pierce is hopeful that talented young paleontologists will enter the fossil insects field.

Because of his patient and knowledgeable teaching, Dr. Pierce has interested many young people in entomology. Dr. Charles Hogue, present Curator of Entomology, attended the Museum's Science Workshop while he was in high school. He had already decided to go into "bugs" and it was Dr. Pierce, then Curator and teacher, who kept him interested and helped build a strong foundation. He recalls that Dr. Pierce "always had time to help his students, to do extra things with them."

A life member of the Pest Control Operators Association of California, Dr. Pierce still teaches men at home for the state license in pest control. He reserves a place for "pest specimens" in a front room along with stacks of papers and scientific data.

No insects are in sight in the Pierces' neat apartment, not too far from the Museum, except for a huge metal fly, a paperweight. High shelves contain a bibliophile's books, manuscripts and drawings. Clara Pierce, his wife, "is a sport," her husband says appreciatively. Now in her eighties, she wishes she could sleep 10 hours a night as her husband has since she married him 58 years ago. That was in 10° below weather in Lincoln, Nebraska, and the groom lost his voice before the ceremony. Last December she took her first flight (Dr. Pierce's second) to Austin, Texas, for a family reunion.

Mrs. Pierce describes her husband as Spartan in his habits. "His system can't stand coffee, tea, alcohol, even soft drinks, and he never smokes. He tried

coffee once and it made him so weak that he took to his bed, read Mark Twain's 'A Connecticut Yankee in King Arthur's Court' and laughed himself back to health."

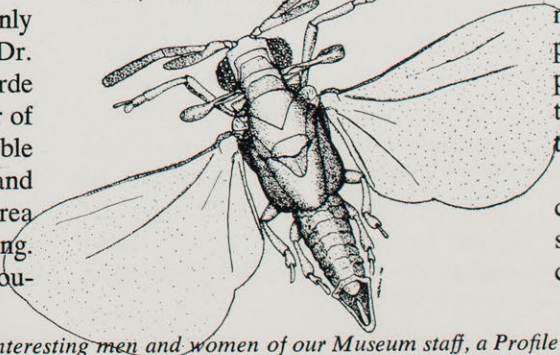
Dr. Pierce's homework takes many turns. He might work on a stipple drawing in colored inks, 1000 dots to a square inch, for wall decoration. Or he might illustrate an article on paleontology for a journal issued by one of the half dozen scientific societies to which he belongs. The Bulletin of the Southern California Academy of Sciences includes many of his illustrated papers. He has served the Academy as president and director and, since 1948, has been its astute treasurer.

He continues to add to his 500 published titles and is now in his sixtieth year of published record which includes descriptions of 280 new species and 25 new families of insects.

Recently he gave his collection of Strepsiptera, from which he prepared the first world monograph, to the Museum. "To those not acquainted with Strepsiptera, it may be briefly stated that these are among the most interesting of all insects. They have both free-living and parasitic stages," Dr. Pierce wrote in a 1961 article in the Annals of the Entomological Society of America. The parasitic Strepsiptera could be used in the control of leafhoppers which carry a virus disease of rice and other grains.

Another facet of Dr. Pierce's homework is a manuscript nearing completion, "The Apostles to 100 A.D.," a sequel to "Jesus, Interpreter of the Eternal," published in 1957. His teaching of adult Bible classes gave him the impetus to write the latter book in order to clarify the underlying truths which Jesus taught. In the introduction Dr. Pierce explains that "to him there is no conflict between his religion and his science. The fundamental search of science is for the truths of the universe. The fundamental search of religion is for the truths of existence, mainly as regards God and man. The field of religion is an integral part of the field of science, and in that part both seek identically the same things, for there can be but one body of truth."

Dr. Pierce no longer teaches Bible but continues to serve as a Deacon in Messiah Congregational Church of Westchester.



The crucial decision for the scientific life came at the age of 17. Young Dwight Pierce's interest was so intensified by a professor of entomology lecturing at his high school that when he entered the University of Nebraska, he was proficient enough to become a student assistant in his chosen subject.

He earned his way through the University of Nebraska by filing for a professor mystified by the Dewey Decimal System. His father, who graduated in paleontology in 1872, but became a lawyer of necessity, had already trained Dwight, the oldest of his three sons, in filing, indexing, and bookkeeping, beginning at the age of 11.

He graduated in absentia in order to accept his first job, Assistant State Entomologist, in Mississippi. After his marriage in 1904, Mr. Pierce took his bride to Washington, D. C. where the Department of Agriculture's Bureau of Entomology kept him busy for fifteen years. During this time he earned his M.A. and doctorate degrees. He was acting in charge of two divisions: insect investigations of southern field crops: cotton, sugar cane, tobacco, rice; and insects affecting the health of man and animals. He spent several summers in the Dallas laboratory supervising the parasitic control of the boll weevil. In 1912 Dr. Pierce published a manual, "Insect Enemies of the Cotton Boll Weevil." Nowadays he suggests that we could rid the earth of the boll weevil if people would let the cotton fields lie fallow for two years. The weevils would have no cotton to munch on and would die out.

Years after his boll weevil studies, his knowledge of their habits netted him \$5,000 from the cotton farmers of Arizona. The State of Arizona had condemned the cotton crop and Dr. Pierce contracted with the farmers to save it. "A barometer was the clincher in the case," he explains. With it he proved to three Federal judges that the boll weevil appears only when climatic conditions suit them and that these conditions did not then prevail in the Arizona cotton fields.

Continuing with the Bureau of Entomology during World War I, Dr. Pierce acted as its liaison man with the Army, Navy and Marine Corps in addition to acting in charge of investigations affecting the health of man, animals and certain crops. He earned a title of apprecia-

tion—"Cootie Curer of World War I."

Realizing the dangers of typhus and other insect-borne diseases in service camps, Dr. Pierce issued weekly mimeographed correspondence on sanitary entomology to a thousand trainees whose job it was to inspect camps for insects harmful to health. Through his efforts two generals were dispatched to Camp Lee where breeding flies and mosquitoes caused much disease. On the whole Dr. Pierce's crusade against harmful insects was somewhat thwarted. Upon offering seventy capable entomologists to the service, the Surgeon General informed him that they already had an entomologist, at a time when millions were dying of an insect-borne disease.

After World War I Dr. Pierce resigned from the Bureau of Entomology. "Too many obstacles," he admits with a smile. As a result of his wartime experiences, he wrote "Sanitary Entomology" (1921), a textbook. Now at the publisher is his "History of Medical and Sanitary Entomology," recently completed, which will be a significant contribution to this field.

A series of jobs as a Consulting Entomologist, worthy only of a man of imagination and persistent attention to detail, occupied Dr. Pierce during the twenties. In his pest control work in San Francisco, he discovered that ferrous sulfate "petrifies snails like the people in Pompeii, kills worms in cats and dogs and birds and increases the fertility of the soil."

A date-grower read a Pierce article on hospital sanitation based on the relation of temperature and humidity to life activity and asked him to apply the theory to processing dates which had mummified on the tree. "I'd never seen a date growing so I said 'sure' and the process worked so well I went into the date business myself," Dr. Pierce recalls.

In 1927 Dr. Pierce contracted with two sugar companies for control of sugar cane insects in the Philippines. During his years on Negros Island his work entailed the study of the language, culture and folklore "because native inhibitions prevented adequate insect measures." Three novels in manuscript, as a side issue, have resulted from these studies—a trilogy illustrated with charming and characteristic pen and ink drawings. Dr. Pierce has recently revised the manuscripts in order to have them published.

While the Pierces were homeward bound from the Philippines to join the Golden Wedding celebration of his parents, news of the bank failures of 1930 reached the ship. The Dwight Pierces were victims and had to practice pocket economy. Dr. Pierce eventually accepted a position with "Biological Abstracts" in Philadelphia, where he synthesized information from scientific articles written in Latin, Greek, Spanish, Catalan, Portuguese, Italian, French, German, Dutch and Roumanian.

As Curator at the Los Angeles County Museum (1937), Dr. Pierce began his studies of weevils of the shore and desert. Also on his agenda were lectures at science clubs, writing a 2500-page manuscript, "Insects and Disease," and assisting medics and the Health Department with problems relating to entomology.

During World War II he was called upon for entomological detective work; for instance, he identified and tracked down mosquitoes from New Guinea which were breeding in water accumulated in a shipment of airplane tires returned to America for repairs.

There are presently a few moments of spare time in Dr. Pierce's life. He goes to a monthly "Thinkers Club" meeting where a group of friends pick a subject for discussion, one person is allowed to speak at a time, and the one rule is "Nobody can get mad." He has kept up his interest in the theater by participating in play-reading sessions. He once trained actors and played character parts himself.

Last but far from least—the atom. Over the years Dr. Pierce has given profound thought to atomic theory and in May 1963 privately distributed the first two of his "Meditations on the Microrealm of Electrons and Atoms." In the second of these he outlines how he thinks the surplus gravity in the electronic buildup of the primitive polyhedra constitutes the electronic charge on the atom.

Life for Dr. Pierce is still as full of the wonders to come as it was when he became a scientist at seventeen. "He has a marvelous outlook on life, much fuller than the average man," Lloyd Martin, long time colleague of Dr. Pierce, observes. "Most people work for themselves; he works for the love of working!"

ACCESSION APPEAL



As many of our members know, two great benefactors of the Museum, Maurice A. Machris and T. R. Knudsen, have just returned from East Africa where they were collecting specimens acutely needed for our exhibition galleries, and for our research materials. The most important single

item on their list was a group of five elephants for a habitat group, and these specimens, I am happy to report, have been collected and are being prepared for shipment to Los Angeles. When mounted and installed in a naturalistic setting with the proper scenery, vegetation, and other accessories, they will constitute the only exhibit of the kind in any museum in the world.

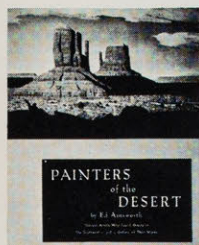
This exciting prospect emphasizes the enormous importance of private donations, without which no museum, not even one supported by public funds, can hope to grow. Public monies pay for maintaining the building, for salaries for the staff, and for day to day services, but such funds are generally not available for large and costly acquisitions, which, in the long run, make the museum

attractive, instructive and stimulating. The elephant group is merely one example, although a most prominent one. The wonderful array of fossils from Rancho La Brea constitute another large and comparable donation from an old friend of the Museum, Captain Allan Hancock.

Still other gifts are of lesser magnitude but are equally important in their own way: the beautiful Remojadas figure given by Dr. Julian Goldsmith (see No. 9, p. 7) and the carved, coiled, plumed serpent presented by Dr. Donald Slocum, are among our outstanding pre-Columbian archeological treasures.

The Museum is now preparing for a vast program of new permanent (as well as temporary) exhibitions to utilize advantageously the space to be vacated by the Art Museum late in 1964. These new exhibits will require numerous additions to our present collections, and it is hoped that members of the Alliance with special interests, special knowledge, and possibly productive connections, may help to channel to the Museum desirable items. In some specific fields, such items may have to be collected, necessitating funds to enable us to send the proper staff member to do the necessary field work. Potential donors of objects or of funds, or sponsors of special trips, may feel assured that such contributions are perfectly proper tax deductions; any person wishing to help should consult the Museum staff for advice and needed information. The Museum and the Alliance in this way have a greater opportunity of enhancing and enriching the cultural resources and the lives of the people of Los Angeles.

Herbert Friedmann



BOOK REVIEW



Painters of the Desert by Ed Ainsworth (Published by Desert Magazine, Palm Desert, California, 1960; \$10.00)

For over 35 years Edward Maddin Ainsworth has been peripatetically roving the Southern California scene, limning its features, shaping its distinctive character, helping to discover its identity. In the midst of an era sensitized to the spectacular, the crucial and the impersonal, his daily column in the Los Angeles *Times* has been an oasis of simple dedication to the ideal of sketching a recognizable regional personality. During this fertile period of chronicling homely, commonplace happenings, he has become intimate with practically all the diverse localities within the burgeoning Southland; and he has made lasting friendships with many of its colorful inhabitants.

But throughout these good and productive years, there has been a very special area that Ed Ainsworth has most lovingly dwelled upon in his prolific writings. As his steady readers know, from the first, it was the ancient California desert, or properly, the Colorado Desert, that beckoned; and this veteran journalist is most at home in that forbiddingly beautiful "land of little rain."

In 1960, he published his *Painters of the Desert* to which he appended a characteristic subtitle: "Glimpses at those who captured for themselves and for their fellowmen the beauty and message of the American Desert." This finely conceived and executed volume was the first of its kind, and was well received by those who appreciated the pictorial grandeur and gorgeous aesthetic effects of our southwestern desert. If there was a "message" transmitted from those handsome pages, it was hardly more pretentious than the actual splendor of the scenes depicted with fidelity by a devoted fraternity of illustrative artists, who have chosen to live and work in that surprisingly accessible locale. In presenting this gallery of the desert's artistic interpreters, Ainsworth contributed an enchanting introduction to its unique natural wonders.

Burt Reiner
Preparator — History Division

MUSEUM BOOKSHOP



The Museum Bookshop operates as a service to the public and to the Museum member. To members of the Science and History Alliance and Museum staff it offers a discount on almost everything. Only items which are sold at cost are not discounted, such as catalogs sold in conjunction with exhibitions. It is the responsibility of the staff in the Bookshop, working with the curatorial staff, to find books, educational material, prints, and sculpture that are unique and will reflect favorably upon the Museum. This is quite a task as funds are not available for buying trips at home and abroad.

Highlighted in the Bookshop, recently placed under new management, are books and pamphlets written by the staff of the Museum. The complete "Science Series," which consists of thirteen pamphlets, and the "Contributions in Science," which consists of sixty-three pamphlets, are available.

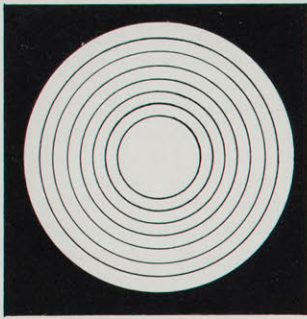
In addition to Museum publications, there is an excellent selection of books relating to history, natural science, life science, and art. The books range all the way from those for the individual just becoming interested in one of these fields to the technical book for the professional library. Due to limited space, the shop is not able to display all its books; however, the latest catalogs are available and one may order almost any book.

A special for the summer and winter season is a fine selection of Indian silver with inlays of turquoise. Recently catalogs of jewelry from India, Siam, Japan, and Jerusalem became available. This jewelry will be featured in the spring, but one may order selected pieces at anytime.

A recent addition in the Bookshop reviewed by the curators for accuracy and authenticity, and now being featured are educational hobby kits. The kits, have been chosen to directly relate to the specialties found in the Museum. The bronze animals pictured are replicas of extinct animals that roamed southern California. The dinosaur skeleton is an accurate construction kit for the youngster or oldster interested in paleontology. The Duesenberg model is a replica of a 1934 model SJ and closely resembles the 1933 model J now on display in the Transportation Hall.

We will be happy to see you in the Bookshop and to order special items for you when possible.

MUSEUM SPOTLIGHT



Mr. and Mrs. Gabriel Ruiz and Mrs. Delores Luckey of Los Fiesteros de Los Angeles add to the color by wearing costumes of the period.



CALIFORNIA HISTORY GALLERY OPENING

On the evening of March 19 at an informal opening and reception the newly refurbished permanent California History gallery was presented to Alliance members and friends. Among the guests were many professional historians, educators, and representatives of old California families.

Three years were spent in the research, planning, and installation of this exhibition with four major periods of California history represented; Exploration, 1542-1790; Mission, 1790-1830; Rancho and Mexican War, 1830-1847; American, 1847-1900. Objects exhibited include lithographs, ship models, weapons, photographs, costumes, dioramas, paintings, transportation equipment, documents, and saddles.

GRANT APPROVED TO STUDY PORPOISE BEHAVIOR

Notification was received in mid-April that a grant proposal submitted in the name of the Museum Associates had been approved for activation by the National Institute of Mental Health. The grant, in the amount of \$9618.00 for a seven-month period, was made to enable Dr. David K. Caldwell, Curator of Marine Zoology, and his wife Melba C. Caldwell, Research Associate in Marine Zoology, to continue their studies on Cooperative Aiding Behavior in captive porpoises. The research will be pursued in the Los Angeles area and in Florida.

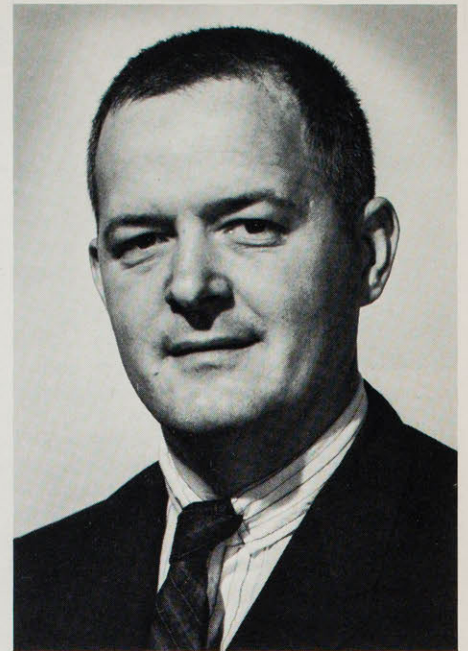
Dr. and Mrs. Caldwell have been invited to present a paper on this subject and one on Sperm Whale Behavior at an International Symposium on Cetacean Biology to be held in Washington, D. C., in August of this year under the sponsorship of the American Institute of Biological Sciences.



VERTEBRATE PALEO FACILITY

Progress on the fourth floor Vertebrate Paleontology Wing brought shattered nerves and falling plaster to the staff members on the third floor when jackhammers broke up the old roof.

Dr. Shelton P. Applegate



NEW ASSOCIATE CURATOR— VERTEBRATE PALEONTOLOGY

Dr. Herbert Friedmann, Museum Director, has announced the appointment of Dr. Shelton Pleasants Applegate as Associate Curator of Vertebrate Paleontology. Dr. Applegate came to the Museum on June 1 from Duke University where he held an appointment in the Zoology Department.

Fossil Fish and marine animals are the two most often reported discoveries by citizens of Los Angeles County. With a qualified curator such as Dr. Applegate in the highly restricted and uncommon specialty of fossil fish the Museum is now prepared to perform an important public function and at the same time greatly expand its research program; he will also work with fossil amphibians and reptiles.

A native of Richmond, Virginia, born on November 24, 1928, he received his B.A. degree in Biology and his M.A. in Geology from the University of Virginia. He went to the University of Chicago for his doctorate which he received in 1961 in Paleozoology. While doing graduate work at the University of Virginia he worked in the Vertebrate Paleontology laboratory at the United States National Museum. During his residence in Chicago he taught geology and biology at the University of Illinois and since then has taught at Arkansas State College and Duke University.

SCIENCE AND HISTORY ON SAFARI

Exciting news from the Knudsen-Machris Expedition to East Africa¹ kept coming to the Museum throughout this recently completed safari. We learned that the first and most important phase of their project—to collect elephants for a Museum habitat group—had been completed in record time. During a three-week period in March five elephants were collected and their skins and skeletons successfully preserved. This was a tribute to the hard work and excellent organization of the expedition which included a training program for the native skinners and George Adams' experience with them prior to the arrival of the main body of the expedition on March 1.

The elephants were collected on the Tana River in Kenya. Paquita Machris wrote, "Our campsite on the Tana River is certainly beautiful. The fifteen tents are pitched under huge shade trees and Dom palms. Bright birds are constantly singing in the bushes and we can watch the big, white-collared Sykes monkeys play in the trees across the river. Every once in a while a hippo comes swimming along huffing and puffing and obviously taking a dim view of our tremendous tent city." After approximately a month at this site and the arrival of rain, expedition members departed for other hunting areas in East Africa.

During April and May, in addition to the elephants, many small mammals for other Museum habitat groups were collected. These include: Chimpanzee, Sitatunga (marsh antelope), Dik Dik antelope, Caracal cat, Wild African hunting dogs, Porcupine, Ratel (honey badger), and giant fruit bats.

The Museum staff is also excited with the scientific specimens that were accumulated for the reference collections. These include approximately 4,000 birds, 200 small mammals (monkeys, squirrels, bats, mongoose, genet cats, etc.), and hundreds of insects.

In addition to animal and plant specimens, over 10,000 feet of exposed movie film has been received, and from the thousands of feet of film accumulated throughout the trip a documentary film concerned with the expedition's activities is anticipated.

¹See: "Elephants in the Museum," QUARTERLY Vol. 1, Nos. 3 & 4.

Dr. Willard F. Libby



ANNUAL MEETING OF THE SCIENCE & HISTORY ALLIANCE

The Annual Meeting of the Science and History Alliance was held in the Museum on May 15, 1963. Mrs. Arthur Manella was in charge of the luncheon arrangements and Mr. Carl S. Dentzel was the program chairman. Keynote speaker of the day, Dr. Willard F. Libby, Nobel Prize Winner for his Carbon 14 Age Dating Process, spoke on "THE ATOMIC CLOCK, Facts and Fables in History Through Science." To the delight of all those present Dr. Libby extended an invitation for the members to visit their laboratories at U.C.L.A. Also included on the program were committee reports, nominations and election of new Board members, a brief progress report by the Director, Dr. Herbert Friedman, and announcement of Discretionary Funds to be allocated to the Divisions of the Museum for the coming year.

SCIENCE LECTURE SERIES— 1963

On May 29 the Science and History Alliance successfully concluded another of its annually scheduled Science Lecture Series. This year the stimulating lectures dealt with the theme, "The Origin and Development of Life." The speakers were again selected by Dr. George C. Kennedy, member of the Alliance's Board of Directors, in cooperation with the Chief Curators of the Science Divisions of the Museum. Each was chosen for his outstanding scientific achievement and his recognized position as a foremost leader in the field of education.

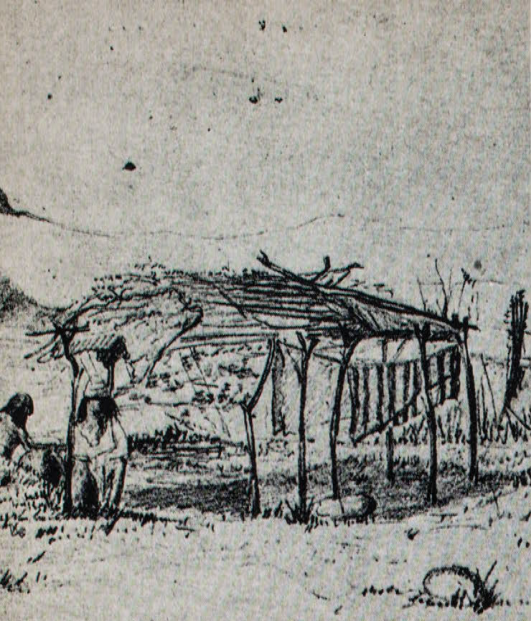
Key speakers for this third annual series were: Dr. David M. Bonner, University of California at San Diego, Eli Lilly Medalist, spoke on "Heredity and Development"; Dr. Sidney W. Fox, Director of the Institute for Space Bioscience and Member of the National Academy of Sciences, spoke on "The Origin of Life"; Dr. Alfred S. Romer, Harvard University, recipient of the Hayden medal and Penrose medal, spoke on "The Evolution of Animal Life"; Dr. Harlan Lewis, University of California at Los Angeles, Dean of Life Sciences, spoke on "The Evolution of Plant Life." (Dr. Elso Barghoorn who was originally scheduled was unable to come to the coast).

An appreciative audience of approximately 1800 people enjoyed these four lectures which attracted great numbers of advanced science students. Letters of appreciation are still being received with attendant expectations for the coming year.

GOOD NEWS REGARDING THE CARTHAY CIRCLE

We have found that an error was made in reporting the future of the Carthay Circle Theatre in the article "The Theatre in Los Angeles" in our last issue, Vol. I, Nos. 3-4. The area is to be redeveloped and the theatre refurbished.

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